

An Advanced Light Weight Recuperator for Space Power Systems, Phase II

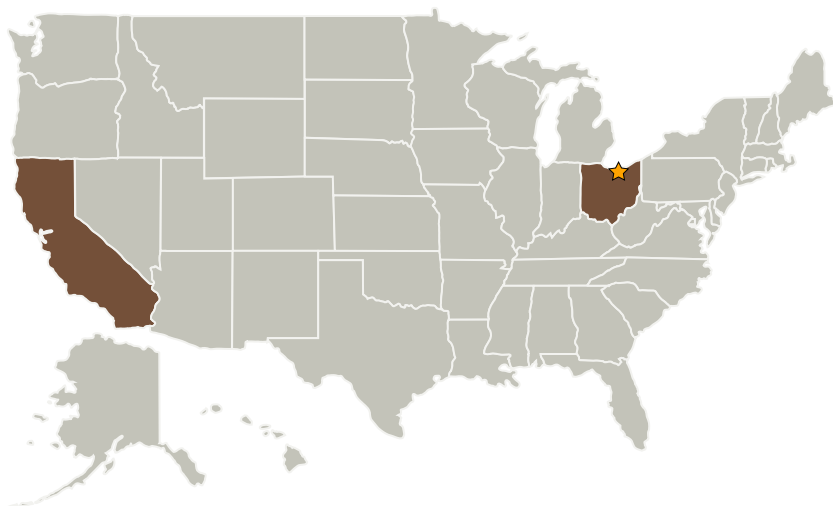
Completed Technology Project (2004 - 2006)



Project Introduction

Closed Brayton Cycle (CBC) space power system is one of the most efficient energy conversion technologies for nuclear and solar electric propulsion. The recuperator is critical to enhance CBC efficiency. An advanced light weight recuperator was proposed to significantly reduce the mass (up to 70%) of the State-of-Art (SOA) metallic recuperator and to improve its performance by using advanced high conductivity carbon-based materials. In phase I, prototype cores were fabricated and tested successfully. In Phase II, performance of recuperator cores will be investigated in detail, integration technologies will be improved, structural and assembly issues will be addressed, a 30 ~ 50 kWt subscale recuperator will be designed, prototyped and tested.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★ Glenn Research Center(GRC)	Lead Organization	NASA Center	Cleveland, Ohio
Allcomp Inc.	Supporting Organization	Industry Small Disadvantaged Business (SDB)	



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Table of Contents

Project Introduction	1
Primary U.S. Work Locations and Key Partners	1
Organizational Responsibility	1
Project Management	2
Technology Areas	2

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Glenn Research Center (GRC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Primary U.S. Work Locations

California

Ohio

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX03 Aerospace Power and Energy Storage
 - └ TX03.3 Power Management and Distribution
 - └ TX03.3.3 Electrical Power Conversion and Regulation